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GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

ELEVENTH ANNUAL REPORT
OF THE SECRETARY OF
PUBLIC INSTRUCTION

FOR THE
PHILIPPINE ISLANDS

FOR THE
FISCAL YEAR ENDED JUNE 30
1912

MANILA
BUREAU OF PRINTING
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REPORT OF THE SECRETARY OF PUBLIC INSTRUCTION.

DEPARTMENT OF PUBLIC INSTRUCTION,

Manila, October 11, 1912.

GENTLEMEN: I have the honor to present herewith the Eleventh Annual Report of the Secretary of Public Instruction. Unless otherwise stated, the report covers the period between July 1, 1911 and June 30, 1912.

During the months of July, August, and the greater part of September of last year I was absent from the Islands on leave and the work of the Department was carried on by His Excellency W. Cameron Forbes, Governor-General, as Acting Secretary of Public Instruction.

BUREAU OF EDUCATION.

ENROLLMENT.

At the close of schools in the month of March, there were in operation 3,364 primary, 283 intermediate, and 38 secondary public schools, employing 664 American and 7,696 Filipino teachers. During the year 529,655 pupils were enrolled, with an average daily attendance of 329,073.

For the school year 1910-11 the enrollment was 610,493 and the average daily attendance 355,722. That is, the total enrollment was about 81,000 less and the average daily attendance was nearly 27,000 less than last year. In other words, there was a loss in enrollment but a gain in the percentage of pupils in actual attendance in the schools. In this connection the following table will be of interest:

Grades.	Average daily attendance.		
	1909-10	1910-11	1911-12
Primary:			
I	191,498	209,119	171,168
II	60,930	74,232	69,909
III	31,461	33,125	39,290
IV	14,062	17,386	22,479
Intermediate:			
V	7,600	9,466	10,950
VI	4,234	6,042	7,190
VII	2,480	3,402	4,608
Secondary:			
First	1,127	1,603	1,971
Second	490	624	796
Third	286	282	452
Fourth	166	241	260
Total	314,334	355,522	329,073

It will be seen from this table that the decrease is in the lowest grades, there having been a considerable increase in all except the first and second years of the primary course.

This decrease in enrollment during the past year was not unexpected. In many towns the balances in the municipal treasury have been expended in constructing permanent school buildings, and the expenditure of current funds for permanent improvements of course necessitates corresponding retrenchments in salaries and like current charges. The cost of intermediate is considerably more than that of primary instruction. More emphasis than ever has been placed upon industrial training, which is more expensive than simple academic instruction, so that the same expenditure would provide for a smaller number of pupils.

Another cause operating to decrease enrollment was the increase in the salaries of the Filipino teachers. During the year the average salary paid Insular Filipino teachers has been increased from ₱45.15 to ₱49.88. This increase carries with it an additional expenditure of nearly ₱35,000 from Insular appropriations. The average salary of municipal teachers has, in the same period, been raised from ₱18.55 to ₱19.93. Had the number of these teachers been as large during the past year as it was during 1910-11 this raise would have resulted in an increased expenditure of approximately ₱135,000, and since there has been no appreciable increase in municipal revenues, the salaries of the teachers could be made larger only by decreasing the total number employed. The following table shows the total number of salaried Insular and municipal teachers with the average salaries for the years 1908 to 1912:

	Insular.		Municipal.		Total.	
	Number.	Average salary.	Number.	Average salary.	Number.	Average salary.
1908-09.....	816	₱43.97	6,882	₱17.83	7,698	₱20.60
1909-10.....	1,010	44.66	7,120	18.29	8,130	21.56
1910-11.....	1,237	45.15	8,387	18.55	9,624	21.97
1911-12.....	1,064	49.88	6,487	19.93	7,551	24.16

This decrease should not be discouraging. There has been no real loss. The most efficient teachers have been retained and only unsatisfactory schools closed. It has been and will continue to be the purpose of the Department to increase the efficiency of our present public school system rather than to expand beyond the point where satisfactory teachers can be obtained and the necessary equipment provided to do reasonably good work with

our present available funds. In short, there can be no further expansion until we have more money to spend for public schools.

COURSE OF STUDY.

No noteworthy changes have been made in the course of study during the past year. The course requires eleven years for completion—four in the primary, three in the intermediate, and four in the secondary grades.

In the intermediate grade six courses are given: The general course, the course for teaching, the course in farming, the trade course, the course in housekeeping and household arts, and the course in business. On reaching this grade, the pupil, with perhaps some advice from the teacher, elects the course he wishes to take. All intermediate schools are not equipped to teach all the courses—some give only one, some two or three, some few all six—but usually a pupil can find a school reasonably near his home in which he can obtain some elementary training in the subject he wishes to study.

The high-school course has been revised; it is now as follows:

First year: Algebra, English, composition, general history.

Second year: Plane geometry, English, physical geography, government, general history, United States history.

Third year: Review arithmetic, English, biology (double period), colonial history, commercial geography.

Fourth year: Advanced algebra (optional), solid geometry (optional), Latin (optional), literature, composition and rhetoric, business English, physics (double period), economic conditions of the Philippines.

The present particular purpose of the high schools is to prepare students for collegiate work, and the course has been shaped to this end. The number of students graduated is not yet large, and, after finishing the high school, three-fourths of the graduates continue their studies elsewhere. Should the time come when a considerable percentage go directly from the schools to the active occupations of life, perhaps some readjustment should be made both in the studies and in the length of the course, in order that these young men and women should have some more practical equipment for a career of usefulness than the present course gives them. The aim of education in the Philippine Islands must, for many years, be in large part utilitarian; the boys and girls must be taught that manual labor is honorable, and equipped for some occupation, trade, or profession upon which they can enter at the conclusion of their studies.

INDUSTRIAL INSTRUCTION.

Some industrial instruction is now given in practically all schools. On entering, a pupil must take up, as a part of each day's work, certain manual exercises, beginning as play but leading to the regular courses provided in the advanced primary and the intermediate grades. In February, 1912, an average month, 216,290 boys and 125,203 girls representing 91 per cent of the monthly enrollment, were engaged in industrial work, such as regular manual training and trade work, school gardening and farming, housekeeping, lace making and embroidery, the making of hats and mats, and the study of basketry.

A close touch is kept on the work of the schools by means of provincial industrial supervisors who constantly visit the schools in their territory; of inspectors and instructors attached to the general office who travel throughout the Islands in general; of publications, bulletins, and correspondence; through industrial exhibits and through the appointment of *pensionados* to receive special industrial training in the Philippine Normal School and the Philippine School of Arts and Trades.

The finished product which is turned out by the children of the public schools is remarkable both for its quality and for its diversity. The exhibit held by the Bureau of Education in connection with the carnival last February was a source of constant surprise and pleasure to the thousands of persons who visited it. The dainty laces and embroideries, the really beautiful baskets, the hats, the pottery, the furniture, and scores of kindred products were eagerly sought for and many times their number could have been sold. While the sale of the product is incidental to the work of the schools, the display brought in nearly ₱30,000, which in part went to the children, but in a great measure reimbursed the schools for the outlay to which they had been put for raw materials. The eagerness with which the articles were bought shows, however, that the time has come when household industries may be made a source of large revenue to the people of the Islands; and to further their development the Legislature in its last session created the School of Household Industries.

School of Household Industries.—This school was created by Act No. 2110 of the Philippine Legislature, which provided ₱100,000 for its establishment and support. Briefly stated, the purpose of the school is to teach adult women lace making and embroidery, and the instruction is definite and practical. Some 150 women, living in widely separated parts of the Islands,

have been brought to Manila and enrolled in the school. After a six months' course they will be returned to their homes, where it is expected they will gather about them and instruct other women, and thus increasing numbers of persons will busy themselves with household industries. As soon as one class has become proficient and gone from the school, another will be brought in to take its place. Of course, it is possible to train the women and create a demand for their work only because lace making and embroidery has been so thoroughly taught in the schools that knowledge of and enthusiasm for the subject are widespread in the Archipelago. Housekeeping among the poorer classes is simple and takes only a small part of the woman's day, so that she has much unoccupied time which can be given to useful employment, increasing the family income and replacing habits of idleness with those of thrift and industry.

It is evident that the practical benefit to be derived from this school depends almost entirely on the touch which is kept on the women after they have been trained. They must be encouraged to continue the work by having material and patterns available and a ready market for their finished product. Already the trade of the Islands in these lines is considerable, but it is not so firmly established that it will grow and develop without careful supervision and encouragement. The Bureau of Education can do a great deal in the way of keeping in touch with the women and showing them how to establish local centers; but it is not, of course, a commercial institution and can not go to the lengths which will, for the present, be necessary.

The chief responsibility for the introduction of this work rests with the Sales Agency, an organization created by the Government primarily to market the wares of the non-Christian tribes, but whose functions have been extended to a general supervision over household industries.

PERSONNEL.

There has been no change in the directorate of the Bureau, but during the year four division superintendents have resigned, and Mr. J. J. Coleman, who has been in the Bureau for some eleven years, was recently compelled by sudden ill health to return to the United States. It is earnestly hoped that Mr. Coleman may recover his health and return to duty in the Islands, where he has served long and faithfully.

In order to keep the heads of the Bureau in more intimate touch with the work in the field, there has been added to its force

an inspecting superintendent and several traveling supervisors, who are continually visiting the schools of the Islands, coördinating, developing, and strengthening the work in them.

American teachers.—As has been stated elsewhere, there are over 650 positions for American teachers in the Bureau of Education, of which about 15 per cent usually become vacant through the elimination of teachers whose services have not been satisfactory and the normal resignations of those who, after a period of service in the Tropics, desire to return home. For these vacancies new appointees must be found in the United States. As was stated last year, it was thought that better results would be obtained if some person thoroughly familiar with the needs of the Insular service and of conditions attaching to the work here were sent to the United States and charged directly with the selection of new teachers. This plan has proved a distinct success. During the months of April, May, and June, 118 new teachers arrived in the Islands, each of whom had been interviewed by this official and had his qualifications thoroughly gone into. Upon their arrival a few of these new appointees were sent to Baguio, where, in the Vacation Assembly then in session, they might receive some special instruction as to the duties of public school teachers in the Islands, and by rubbing elbows with others who have long been in the service learn how best to adjust themselves to unfamiliar conditions. The result of this venture was quite satisfactory and it is hoped that another year larger numbers can be sent. Those who did not go to Baguio were given a course of special lectures in Manila. Except in the larger cities, living conditions are rarely suitable for single women, and, in consequence, few have been appointed.

There was a time when some stigma attached to the American teachers in the Philippines because, by their crudities of manner and niggardly mode of living, a few ill-chosen employees had reflected discredit upon the entire service. This time has happily long passed and it would be difficult to find, not in the Islands but in the United States, a more steadfast, capable, and efficient body of men and women than our American teachers.

Filipino teachers.—At the close of the year 7,696 Filipino teachers were on duty in the Bureau. Of this number 1,064 were paid from Insular funds, 6,487 from municipal funds, and 145 were apprentices who received no salary. The original task of providing suitable Filipino teachers for the public schools was one of great difficulty; there was no large supply to draw from and it was necessary not only to instruct young men and women

in the science of teaching, but to furnish them a new language as well. This task has now been pretty well accomplished. The Filipino teachers have, as a rule, a satisfactory knowledge of English and have learned how to impart their knowledge. Almost all primary instruction is now given by them and, to a considerable extent, the intermediate instruction has been turned over to them also. Each year the number engaged in secondary instruction increases, and 161 have been assigned to positions as supervising or assistant supervising teachers. I have already said that the salaries of the teachers have been increased; and although they are not yet commensurate with the salaries usually received by their fellows in other walks of life, further large increases cannot be made until there is some considerable augmentation of our revenues. There is, however, one advantage attaching to their service which in a large measure compensates for these smaller salaries—the exceptionally large number of better-paid positions with which satisfactory teachers can be rewarded after having become qualified to fill them.

Pensionados in Insular schools—In order to provide an adequate supply of competent Filipino teachers the Government has created a large number of scholarships to which both teachers and students are appointed. The *pensionados*, as those holding scholarships are called, are assigned to the Philippine Normal School, the Philippine School of Arts and Trades, and a few to the College of Agriculture at Los Baños. A teacher *pensionado* is ordinarily given one year of higher instruction, a student two or three. During the year there were some 231 *pensionados*, the great majority of whom doing thoroughly satisfactory work. These scholarships have done more than any other one thing to improve the teaching force and it will be a long time before the number can be diminished to any considerable extent.

Pensionados in the United States.—With a view to providing the Government with young Filipino men and women suitable for appointment to positions requiring collegiate training, the Commission shortly after its creation established scholarships in the United States. So far 211 appointments have been made thereunder; and some of the brightest and most capable young men in the Government service received their training in some college or university in America. During the year only two appointments were made, and with the establishment of the university, in which instruction is given in almost every profession needed in the Islands, it is believed unnecessary to continue to send young men and women to the United States for undergraduate work. At its last session the Legislature provided 15

fellowships for advanced work, and these should take care of all the students whom, in ordinary circumstances, the Government should find it necessary to maintain elsewhere than in the Islands.

Vacation assemblies.—The Fifth Teachers' Vacation Assembly was held at the Teachers' Camp in Baguio from April 15 to May 17. The purpose of the assembly is to provide a place where, for a moderate outlay, teachers can spend their holidays amid agreeable surroundings and be given an opportunity for study and intellectual stimulation as well as to foster and develop an *esprit de corps* and a spirit of loyalty and enthusiasm among the teachers. During the assembly frequent professional conferences were held, by which men actually engaged in the work of teaching were given an opportunity of embodying the results of their experience and observations in a series of reports, which are of great value in shaping and developing the work of the Bureau. Courses of lectures were given by professors who had been brought from the United States for that purpose, and a comprehensive athletic program was carried out. During the season nearly 400 persons were registered at the camp.

The vacation assembly for Filipino teachers was held at the Philippine Normal School from April 15 to May 24. Fourteen hundred and ninety-two students were enrolled, representing 36 school divisions. At the same time classes were held in the Philippine School of Arts and Trades with an attendance of 245 students from 35 school divisions. Regular academic classes were held and special attention was given to industrial instruction, gardening, and athletics. Lectures were delivered by prominent men and various excursions to places of interest adjacent to Manila were provided. Similar institutes were held in several of the large provincial capitals.

BUILDINGS AND SITES.

The chief step toward supplying the Islands with permanent school buildings for the smaller schools was taken when the Philippine Legislature as its first legislation passed Act No. 1801, appropriating ₱1,000,000 for assisting municipalities to provide schoolhouses for their barrios. This sum has already been allotted, and by Act No. 2029 another ₱1,000,000 has been appropriated, which is to be available at the rate of ₱250,000 a year. Of this latter appropriation ₱865,760 remains unallotted.

It was at first difficult to obtain plans for permanent buildings which could be put up for the comparatively small amounts of money available for each separate project—the average amount

being about ₱6,000. As a consequence, standard plans were prepared for buildings—simple in design, but durable in quality and adequate in size—of reinforced concrete; and now practically all the smaller school buildings are put up from these plans. So far a total of 135 schoolhouses have been completed, 83 of which were built in accordance with the standard plans; and 137 are under construction, 81 of which are so nearly completed that they have already been occupied.

Another matter which is now receiving the somewhat tardy attention of the Department is the acquisition of suitable sites for the school buildings. With the spread of athletics and the necessity of teaching the children how to raise vegetables and of developing their æsthetic taste through flowers and an attractive setting for the schoolhouses, it has been found necessary to have a considerable amount of ground around the buildings. The tendency heretofore has been to locate the school building either on or immediately adjacent to the public plaza, which is the center of the business district and where land is apt to be needed for markets and other commercial purposes. In consequence, there has been difficulty in obtaining sufficient unoccupied ground. Hereafter the minimum site which will, in ordinary circumstances, be approved for central schools is 10,000 and for barrio schools 5,000 square meters. After the school building has been occupied the grounds will be improved according to definite plans, a part being given over to gardens and a part to playgrounds. The necessary outbuildings for perfect sanitation will be provided and scrupulous cleanliness will be exacted both for the buildings and for the grounds. So far the Bureau is in possession of 137 school sites of 10,000 square meters or more and 332 school sites of 5,000 square meters or more, almost half of which have been acquired during the past year. It is hoped that next year a substantial increase in the number can be reported.

Even with the very liberal provision which the Government has made from its limited revenues for school buildings, it will be many years before all of our public schools will be permanently housed. Some rules and regulations regarding temporary buildings have, therefore, been provided. In general they are that the buildings must be well lighted and thoroughly sanitary; and plans for a model building can always be obtained from the Bureau.

INSULAR SCHOOLS.

Mention has already been made of the School of Household Industries.

Philippine Normal School.—The Philippine Normal School has just been moved into a new building large enough to provide for its present needs and the reasonable growth of the next few years. This will be supplemented by a new girls' dormitory for the construction of which plans have been prepared and some ₱275,000 made available. The normal school is now devoted entirely to the training of teachers. Forty students were graduated last March and of these 28 are already in the employ of the Bureau of Education. Before entering the school, an applicant must sign a statement that one intends to devote oneself to the profession of teaching. Nine hundred and twenty-eight pupils were enrolled last year.

Philippine School of Arts and Trades.—The Philippine School of Arts and Trades is still inadequately provided for in the shops on Calle Arroceros. Two hundred and twenty-five thousand pesos are available for new buildings; while this sum is not sufficient properly to house the school, it will greatly relieve present congestion. The work in the school during the year has been thoroughly satisfactory.

Philippine School of Commerce.—During the year 362 pupils were enrolled in the school of commerce as against 391 for the preceding year—a decrease because the requirements for admission have been raised to a completion of the sixth grade. The demand for stenographers and clerks is so large that almost no students have completed the entire four years' course and no one who does reasonably satisfactory work has difficulty in obtaining immediate employment at a satisfactory wage.

School for the Deaf and Blind.—Forty-four pupils were cared for in this school during the year. These pupils come from various parts of the Islands and are being taught to read, write, and perform such simple occupations as they can.

ATHLETICS.

Athletics play an important part in the work of the public schools. There is hardly one in the Islands which does not have a baseball team and the pupils are in every way encouraged to participate in some form of athletics. A great many field meets were held during the past school year and the crowds which attended them were even larger and more enthusiastic than they would have been in the United States. During the carnival an interscholastic meet was held in Manila, at which the provinces which had won the interprovincial meets were represented. When athletics were first introduced into the schools emphasis was placed on such specialized games as baseball and track events.

It was found that these games were not bringing the necessary physical training to the great majority of the pupils, and more recently such games as volley ball, pickaback relays, and the like, have been introduced and emphasized. In these games practically the entire student body participates.

LEGISLATION.

The following legislation touching the Bureau was enacted during the year :

Act No. 2069 of the Philippine Commission appropriating the sum of ₱235,700 for the support of schools in non-Christian provinces for the year 1912.

Act No. 2070 of the Philippine Commission appropriating the sum of ₱46,000 for the construction of school buildings in the non-Christian provinces.

Act No. 2110 of the Philippine Legislature appropriating the sum of ₱100,000 for the establishment in the city of Manila of a School of Household Industries, and providing for 300 scholarships therein.

Act No. 2134 of the Philippine Legislature providing for the appointment of 100 students to pursue a course of training at the Philippine Normal School, or at the Philippine School of Arts and Trades, and appropriating the sum of ₱30,000 therefor.

Act No. 2146 of the Philippine Legislature authorizing provinces to provide from current funds for the support of scholarships in the University of the Philippines or in any other Government educational institution in the city of Manila.

Act No. 2182 of the Philippine Commission appropriating the sum of ₱20,000 for the purpose of constructing at the Teachers' Camp, Baguio, the girls' dormitory for Filipino teachers.

Desired legislation.—The passage of legislation covering the following subjects is recommended to the Legislature:

1. A law authorizing municipalities to expropriate lands for school purposes. At present municipalities are permitted to expropriate lands for streets, cemeteries, and markets, and it frequently happens that exorbitant prices are asked for parcels of ground which are needed by the schools, simply because the council has not the power of expropriation.

2. Without recommendation I lay before the law-making body the question whether municipalities might not be given greater latitude in fixing the percentage of taxation for school purposes. I do so because in some municipalities where the revenue is insufficient, classes in the public schools are being maintained by voluntary contributions and this situation gives rise to some

problems. Many people are unwilling to contribute to the support of the schools, but they send their children to them none the less. Of course, if we have public schools, however they are supported, they must be open to everyone, and this condition is apt to result in misunderstandings and bickerings.

3. I also here reiterate my former recommendations that there be no further extension of the time when English is to become the official language of the Government. Without again going into the reasons for this recommendation, I will only say that the frequent extensions of this period have worked great harm upon our schools and put their pupils at a marked disadvantage.

FINANCIAL STATEMENT.

The current appropriation for the Bureau of Education amounted to ₱3,610,000. In addition a balance of ₱22,626.35 was brought forward from preceding years to cover expenses which had been incurred during the fiscal year 1911 but which could not be paid until the following year. Expenditures for permanent improvements at Malabon, at the Central Luzon Agricultural Farm at Muñoz, and elsewhere, amounted to ₱27,987.95, leaving a balance of ₱3,604,638.40. The total expenditures were ₱3,603,385.56, of which amount ₱2,612,090.70 were for salaries and ₱991,294.86 for contingent expenses. For the support of schools in the non-Christian provinces during the year the sum of ₱235,700 was appropriated by Act No. 2069, which, together with a balance of ₱23,950.10 provided by Act 1992, made a total of ₱259,650.10 available for expenditure. Of this amount ₱255,501.72 was expended, leaving a balance of ₱4,148.38, which was carried forward to the fiscal year 1913.

GENERAL.

During the year the following publications have been issued by the Bureau:

Bulletins Nos. 37 and 38, School Buildings and Grounds, and School Buildings, Plans, Specifications, and Bills of Materials, covering the policy of the Bureau with respect to building and school grounds improvements, and containing detailed information of service to those directly interested in the work.

Bulletin No. 40, Athletic Handbook for the Philippine Public Schools.

Bulletin No. 41, the Service Manual, a compilation of laws and regulations affecting the Bureau of Education.

Bulletin No. 42, Intermediate English II, for use in connection with the correspondence study course.

Bulletin No. 43, catalogue of the Philippine School of Arts and Trades, published in March, 1912.

Bulletin No. 44, Libraries for Philippine Public Schools, will be in print shortly.

In addition to these bulletins, the Bureau has published the Eleventh Annual Report of the Director of Education, a seventh civico-educational lecture on coconuts, Volume V of the Teachers' Assembly Herald, and a statement of organization, aims, and conditions of service in the Bureau of Education. Four textbooks for use in the secondary schools have been printed: Commercial Geography, the Materials of Commerce for the Philippines, an Introduction to the Study of Colonial History, written from a Philippine view-point with reference to the objects and problems of colonization, a volume of Selected Short Poems by Representative American Authors, and a book containing Macaulay's "Samuel Johnson," Emerson's "Self-Reliance," and Lincoln's "Gettysburg Address." The publication of The Philippine Craftsman, a monthly magazine devoted entirely to the advancement of industrial instruction in the public schools, has also been undertaken.

The following statement of the Director of Education will be of interest:

During the past year the Director of Education has been in correspondence with the school authorities of a number of other countries, particularly those located in the Tropics, and enjoying practically the same conditions as obtain in these Islands. Letters requesting information on 13 topics were sent out to about 70 countries, from nearly two-thirds of which replies have been received. A careful review of the correspondence shows that it is the aim of nearly every one of these countries to make education general, but, as a rule, the percentage of population attending school is much lower than in the Philippines. In very few cases is special attention being given to industrial education. The elementary schools are seldom considered in the plan of industrial instruction, the attention generally being confined to advanced technical and agricultural subjects. Much more stress is laid upon athletics and physical training in the Philippines than is given in other countries generally. The interest that the Filipino people take in public instruction is much greater than is apparently the case elsewhere. Reports seem to indicate that in a number of countries, at least, not only a lack of interest, but actual opposition is manifested.

PRIVATE SCHOOLS.

The work of standardizing the courses given in private schools has been continued. The course of study now offered in all approved schools and in the majority of those which have not yet received Government sanction, is similar to that of the public schools. The degree of bachelor of arts is given at the end of a

thirteen-year course. This course of study was prepared by the Secretary of Public Instruction at the beginning of the school year 1910-11 and has since remained practically unchanged.

Decided progress has been made in improving the teaching force in private schools. Most new appointees during the past year were high or normal school graduates and, in the large majority of private schools primary and intermediate instruction is now given either by such graduates or by teachers who have been trained in other public schools. Almost without exception in the higher grades of the private schools, American teachers give the instruction in English. In several of the colleges the entire faculty is composed of American or English-speaking European teachers.

During the year nine private institutions were approved by the Government; one being authorized to confer the degree of bachelor of arts on its graduates; two to grant high-school diplomas; four to give intermediate, and two primary certificates. This makes a total of 25 private schools which have adopted the course of study prescribed by the Department. These schools are using modern texts in most subjects and are doing work which reaches the standard set by the Government. There are yet five or six colleges which will probably be able to reach this standard during the coming year.

In addition to the schools referred to, there remain some 28 or 30 which are endeavoring to bring their standards up to that of the approved colleges. Six or eight of these will eventually succeed, but it seems improbable that the great majority will ever approximate this standard. They may be found in Manila and many provincial capitals. As a rule, they are conducted in private dwellings and present little semblance to a school or college. The masters appear to have little conception either of grading and classification or of school work in general. Entering pupils choose their own grades, and boys of 10 or 12 years study subjects which properly belong in a college course. The probabilities are that if a pupil only pays the fees he is permitted to enter whatever grade he pleases. Students are found in these schools who have left better institutions in order to skip two or three grades by taking subjects which they are not qualified to study. The number of these schools is, however, decreasing. As the people learn more and more about instruction, they demand proper training for their children and any school which can not reasonably guarantee value received will not be able much longer to receive the patronage of the Filipino people.

Improvement in school grounds and buildings has also been made. La Concordia, Centro Escolar, Burgos Institute, and La Salle have between them expended something over ₱200,000 in repairs and construction. Several projects for the erection of modern school buildings are now under consideration; and in most cases the schools will be moved out of the crowded districts to places where suitable ground can be secured. As soon as the plans have been approved, the Jesuits expect, at a cost of ₱2,000,000, to erect their new Ateneo at Palomar Park, where they will have a campus of several acres. The Dominicans expect to spend, on the outskirts of the city, over ₱1,000,000 in new buildings for the University of Santo Tomas. The Liceo is also planning a new college outside of the city. The Greater Liceo, as it is called, will then, for the present at least, become the greatest purely Filipino institution in the Islands. Its directors intend to introduce secondary technical courses and to make the college in all respects thoroughly modern. Silliman Institute at Dumaguete is also preparing for large extensions. Over ₱100,000 in cash are to be spent for materials; the work to be done by students in the industrial college. At Jaro, in the Province of Iloilo, Bishop Daugherty has just completed the buildings of one of the finest colleges in the Islands. Santa Scholastica Convent has secured a large tract of land in Singalong, where buildings for a new school will be erected at an estimated cost of ₱250,000, the work to begin within a few weeks.

Thirty-four private schools are giving all primary and intermediate courses in English; nine are giving primary, intermediate and high-school courses in English; and two are giving all the courses in this language. Three years ago, with but two or three exceptions, these colleges did nearly all work in Spanish. In schools where instruction is given in English, English textbooks are used and English is used even outside the classes. The progress made in the use of English in the private schools has been, as may be seen, quite satisfactory. The colleges have done as much as they could to introduce this language without working hardships upon students. In many cases English cannot be used in the higher grades until the students who took their preparatory work in Spanish have been graduated.

Until a comparatively short while ago, with few exceptions, only cultural courses were given in private schools, and most of their graduates looked forward to entering the practice of law. This has led to an overproduction of lawyers, many of whom

are but poorly qualified and eke out a poor existence, while they could have become producers of wealth in the Islands, had their training been different.

The emphasis placed on industrial education in public schools has led to its gradual spread to the private schools, although the development therein will be slow until the public patronizing these schools realizes that its sons and daughters must do the work and take the courses which make for the best citizenship. The Belgian Sisters have established schools in Manila, Tagudin, and Bontoc, and offer to all their students a practical course in lace making. During the year a quantity of their lace has been sold in Manila and in foreign markets. These sisters have brought with them the ideas and experience of years of lace making and industrial work in Europe and India and have been distinctly successful in their efforts to establish and build up one industry. They are planning to open schools in other of the larger cities of the Islands.

The colleges for men have given but little attention to athletics, chiefly because proper grounds and equipment are lacking and their students had little physical instruction during their early years. A few have organized baseball, volley ball, and basket ball teams and are doing some track and field work. Siliman Institute and La Salle College are distinct exceptions. These two schools have well-organized teams and lay particular emphasis on all branches of athletics.

During the past year the three hundredth anniversary of the foundation of the University of Santo Tomas was celebrated in Manila. This, the oldest university under the American flag, is the only private university in the Philippines, and has wielded a powerful influence over the lives of the Filipino people. From its classes have come many of the most distinguished citizens of the Islands.

The enrollment in private schools of the better class has continued to increase since the work of standardizing the courses was undertaken by the Department. During the year 7,882 students were in attendance in these schools, an increase of 888 over the preceding year. The reports from the various schools throughout the Islands show that 424 of the 667 teachers employed are prepared to give instruction in English.

BUREAU OF AGRICULTURE.

PERSONNEL.

On September 13, 1911, Dr. George E. Nesom resigned the directorship of the Bureau and Mr. Frederic W. Taylor was

appointed Director of Agriculture. Mr. Taylor arrived in the Islands and entered upon the duties of his office last October. Until Mr. Taylor's arrival, Mr. H. T. Edwards, assistant to the Director, was in charge of the Bureau.

There has been an increase of one American and 22 Filipinos in the classified positions.

GENERAL.

During the year the Islands were visited by a prolonged drought which affected the growth of all staple crops and caused suffering and want in localities where the people depend for their welfare upon the success of a particular product. In those where several crops are grown conditions were much more normal. As a rule, in the Philippines a particular district is known for a particular crop, such as Cagayan and Isabela for their tobacco, Negros for its sugar, and so on; and the people are accustomed to raise only that crop and have neither seed for nor interest in others. A year, therefore, in which their crop is a failure is one of acute distress. The policy of the Bureau has been to encourage the people to plant diverse crops so that in case the tobacco or sugar should fail there might be corn or rice or some other food or revenue-producing staple with which they might tide themselves over the period which must elapse before the next regular crop is harvested.

The long dry season was accompanied by unusually large swarms of locusts and other pests because of the failure of their customary food. It was particularly severe in its effect on the rice crop, which was probably 40 per cent less than that of the preceding year. Sugar was not so badly affected and showed a satisfactory increase both in quantity and value of exports. There was a small decrease in the quantity of hemp, but an improvement in quality led to a slight increase in the value of that exported. Although the amount of tobacco produced was somewhat less than that of the preceding year, there appears to have been some improvement in its quality. The partial failure of the rice crop resulted in a large increase in corn planting, and, while the crop of last year was affected by the drought, the indications are that the 1913 crop will be the largest in the history of the Islands. Copra was the banner crop, and localities which raise large numbers of coconuts have enjoyed unusual prosperity. For the first time this product led all others in the value exported.

The most important work which the Bureau has in hand is the eradication of rinderpest, and the corresponding work

of encouraging the development of the herds which were so largely destroyed by disease. Of next importance is the perfecting of a satisfactory method for bringing to the people a knowledge of its work so that larger and better crops will be grown. It is now endeavoring to keep in touch chiefly through field demonstrations. Two projects of this character are already well under way and others are planned. The first coöperative demonstration station will shortly be established in Iloilo, and it is hoped to multiply these stations until there is at least one in each province.

DIVISION OF ANIMAL HUSBANDRY.

This division is charged with the supervision of live stock belonging to the Bureau, and with the purchase in the Islands of stock for the Government. It arranges for live stock exhibits and has control of public live stock breeding.

Public live stock breeding.—During the year stallions have been available for public use, without charge, in fifteen provinces and subprovinces, and 695 mares have been bred. Stallions, bulls, boars, and billies are always available for service at the Alabang Stock Farm and the La Carlota Experiment Station, and at other stations some animals are kept for that purpose. The public has not taken readily to the use of Government animals for breeding purposes, because the overcoming of its prejudice against new methods is slow; but their use is increasing, and in those districts where animals have been kept for a long time there is a marked improvement in the quality of the live stock.

Live stock exhibits.—A large live stock and poultry show was held in connection with the Philippine Exposition at Manila during the month of February, and a provincial live stock show at Virac on the Island of Catanduanes in July, 1911. The Bureau also exhibited live stock at the Iloilo fair in December, 1911.

Alabang Stock Farm.—The Alabang Stock Farm has been noticeably improved during the year, while the cost of its maintenance has been reduced. One thousand four hundred and eighty-five meters of new road, one bridge, two culverts, and a 100-ton silo of reinforced concrete were constructed. The manufacture of cement posts for fencing has been continued. Thus far these posts have proved thoroughly satisfactory. They not only cost less, but they are more durable than those made of hardwood. There were under cultivation approximately 50 hectares of land, on which, in a large part, forage crops for the feeding of farm

and laboratory animals were grown. Special attention was given to the production of hay, 12 tons of Rhodes grass being cured and baled. The condition of the horses is satisfactory and the cattle herds have done well in spite of the drought which, in a large part, destroyed the pasturage. Good results have been had from the Chinese cattle and their crosses. They make excellent work animals and are easily subsisted on the natural range grasses. The Indian herd has also done well. They, too, are good foragers, but, owing to their roving disposition, are not so easily herded as are Chinese cattle. For hauling they are superior to the latter. The demand for well-bred pigs has thus far exceeded the available supply, and the number of breeding sows will be increased.

Trinidad Stock Farm.—The maintenance of animals which cannot subsist on the country has proved expensive in the Benguet Hills because of the cost of transporting forage. For this reason most of the horses were removed to other stations and little work done at Trinidad. At the close of the year there were four horses and 95 cattle at the station.

La Carlota Experiment Station.—The cattle at La Carlota did well, subsisting entirely on native grass, which kept them in excellent condition. The horses showed considerable improvement. The natural increase at this station was: Horses, 10; cattle, 39; carabaos, 7; goats, 9; swine, 12.

The Ilagan Tobacco Station.—The Ilagan Tobacco Station has, in addition to its other work, undertaken the breeding of stock, and to this end has been supplied with 1 American stallion, 1 Nellore bull, 1 Berkshire boar, and 3 Berkshire sows.

VETERINARY DIVISION.

On June 30 last the force of this division consisted of 41 veterinarians, 64 American live-stock inspectors, 223 Filipino live-stock inspectors, 1 pathologist, 1 veterinary entomologist, 4 American clerks and stenographers, and 2 Filipino clerks and stenographers—a slight reduction from the force on duty at the beginning of the year.

Rinderpest.—Animal disease is now a comparatively small factor in the industrial economy of the Islands, but potentially it is a very large factor. During the year only 4,312 new cases of rinderpest were reported among the cattle and carabaos, with 2,847 deaths. The census of 1903 states that during the year 1902, 629,176 cattle and carabao died of disease, chiefly rinder-

pest. The following table shows the known amount of infection at the beginning and end of the year:

	New cases per week. ^a	Deaths per week. ^a	Prov- inces. infected.	Munic- ipalities infected.	Barrios infected.
Week ending—					
July 1, 1911	254	230	17	64	170
June 29, 1912	23	19	11	34	69

^a Cattle and carabaos.

The comparatively small number of deaths from rinderpest have retarded but little the rapid increase in the herds of carabao and cattle. The percentage of deaths from this source compared to births is almost negligible. This does not mean, however, that our work has ended. If the efforts of the Government were to any considerable extent relaxed and the disease allowed to spread, whole provinces would again be swept clean of their work animals. The existence of disease also hinders capitalists from investing large sums in cattle raising in the Philippines, and the chief work of the Bureau will not be ended until rinderpest has been completely eradicated from the Islands and all sources of outside infection eliminated.

The method followed in combating the disease was the same as last year, that is, through strict quarantine; and the satisfactory results seem to justify the belief that this is the only feasible method for making headway against rinderpest. Effective quarantines have been possible through the coöperation of the military authorities. The division commander, Maj. Gen. J. Franklin Bell, has placed at the disposal of the Government a large number of Scouts, who have rendered valuable service. On the last day of the year there were on duty in this work 30 officers and 1,390 enlisted men, belonging to 13 companies of the fifth, seventh, and ninth Battalions of the Philippine Scouts. Not only have the men given splendid service, but their officers have shown enthusiasm, patience, and tact in discharging duties which were often disagreeable, and their coöperation could not have been fuller had they been an integral part of the organization of the Bureau of Agriculture. Provincial officials, and, to a considerable extent, the people in general, are coming to appreciate the necessity of quarantines and are coöperating in a measure which makes effective work easier as the campaign progresses.

The following table shows the extent to which disease was prevalent during the last eight days of the year:

	Suspects.		New cases.		Convalescents.		Deaths.	
	Cattle.	Carabao.	Cattle.	Carabao.	Cattle.	Carabao.	Cattle.	Carabao.
Pangasinan		5		6		5		1
Zambales		5		2		4		2
Pampanga		6		9		3		5
Rizal		9		5		7		2
Laguna		3		2		13		2
Capiz		0		1		4		1
Iloilo		3		3	4	20		7
Total		31		28	4	56		20

It is only fair to state that this table is not conclusive. There is, without doubt, some unreported disease, particularly in the northern part of Luzon. From time to time territory adjacent to the foothills of Benguet is infected by animals coming from the north, although every effort is being made to prevent their introduction from this territory until the Bureau has had an opportunity to move its force into northern Luzon and stamp out such disease as exists there.

Other diseases.—Foot-and-mouth disease was imported from Indo-China during the year, but its spread was promptly checked. No cases of contagious pleuro-pneumonia have been found outside of Sisiman matadero, which seems to indicate that the prompt measures taken on the discovery of this disease some two years ago were successful in preventing its introduction. During the year scabies, or mange, was found in carabao received from Formosa, but no cases have developed outside the quarantine yards. Surra still exists in the Archipelago. Glanders, anthrax, and similar diseases also exist, but to no large extent.

Quarantine.—The apparent impossibility of preventing the introduction of rinderpest through animals coming from China has led to a continuance of the ninety day quarantine against Chinese ports, and although the matter has been gone into with the utmost thoroughness in an endeavor to devise a method which would permit the importation of cattle from Hongkong, no other plan has been found which would provide any reasonable assurance of immunity against reinfection. Rinderpest was introduced in cattle from French Indo-China, causing a considerable outbreak in the Province of Iloilo, and subsequent outbreaks in Capiz were also directly traceable to these cattle. Prior to their shipment, animals imported from French Indo-China had been examined by a veterinarian of the Bureau of Agriculture maintained there for that purpose and by French veterinarians, and had undergone a ten-day quarantine on their arrival in the Philippines. In spite of these precautions rinder-

pest was introduced and nothing remained but to put in effect a ninety-day quarantine on shipments of cattle from this territory.

Cattle quarantine stations are maintained in Manila and Iloilo, that in Manila being located at Pandacan on the Pasig River. The cattle brought in are loaded directly onto lighters and taken by water to the station, where they are kept during their period of quarantine, after which they must be removed from the station, no sales of stock being permitted there. The station at Iloilo is entirely inadequate and steps are being taken to provide a more suitable site.

Meat inspection.—The Bureau of Agriculture inspects animals presented for slaughter in the abattoirs maintained in Manila and Sisiman. The system in operation is based upon that in use in the United States, and it is believed that the ante-mortem and post-mortem inspections which are now conducted by veterinarians who have been specially trained for this work are as thorough as could be desired. In the Manila matadero 76,336 animals were slaughtered, of which 1,022 carcasses and 77,358 parts were condemned. At Sisiman, where only animals from Australia are killed, 8,104 cattle and 36 sheep were inspected and 167 carcasses and 5,893 parts condemned.

Simultaneous inoculation.—During the year simultaneous inoculation was practised on 1,205 cattle and carabao, of which 310 died, a loss of about 25 per cent. These figures do not encourage the belief that it would be feasible to practise simultaneous inoculation upon animals received from infected countries.

DIVISION OF AGRONOMY.

The greater part of the work of this division has had to do with rice, forage crops, and hay grasses.

Rice.—Extensive experiments with both upland and lowland rice have been carried on in the endeavor to determine the varieties which produce the best crops in the Philippines. A full report of this work is now being published as Bulletin No. 22 of the Bureau of Agriculture, and can be obtained on application to the Bureau.

The value of the rice imported into the Philippines last year amounted to ₱21,139,898. This year it is believed the figures will be even larger. Perhaps our greatest single economic problem is that of producing enough rice to feed the country. There is no reason why this cannot be done. Land is available everywhere; there are work animals in plenty, and the people understand the culture of rice more universally than that of any other

one crop. Plans, somewhat indefinite as yet, are being formulated by which it is hoped that the people will be induced more and more to raise rice, with the result that in a few years the Philippines, which are to so large an extent agricultural, may cease the importation of this staple food.

Forage plants.—The best results in making hay have been obtained from Rhodes grass (*Chloris gayana*). Extensive experiments with this grass have been carried on at Alabang and in specially prepared ground at San Miguel, Tarlac, although operations at the latter station were hardly extended enough to be conclusive at the time of writing this report. At Alabang the grass was grown under irrigation and it is believed that if it is sown in October two or even three cuttings should be obtained during the dry season, in which season only it can be cured. More conclusive results will be had from experiments conducted during the present year. The hay from this grass appears to be equal in every way to timothy and should be worth at least ₱60 a ton on the Manila market. Guinea grass continues to give excellent results for green forage.

As I have said in another report, a very large amount of money is each year sent from the country to buy forage for its horses and cattle. It has now been shown that satisfactory hay can be raised in the Philippines at a cost which will enable the producer to market it for a lower price than that paid for the imported product and yet allow him a reasonable profit. The Alabang Stock Farm this year raised on a comparatively small acreage almost enough forage for its own animals, and there is no reason why within the next few years the Government should not raise all the forage it needs. There still remains the Army, which is the largest single consumer of imported forage; and the military authorities are coöperating with the officials of this Government in the endeavor to encourage the production of a satisfactory hay by the farmers of the Philippines.

Experiments with a substitute for imported grain have been continued at the Pandacan forage factory and they are now extended enough to permit some definite statement of results. Grain ration known as No. 14 consists of 61.5 per cent corn meal, 15 per cent Manchurian bean meal, and 23.5 per cent wheat bran. It has about the same nutritive value as oats. It has been used particularly for horse and mule feed, although equally good results have been obtained in feeding it to cattle, hogs, and poultry. The corn used at the factory was produced in the Islands and more than 60,000 kilos of corn meal were sold. The increasing demand for corn meal and for mixture No. 14, which contains so large a percentage of this cereal, seems

to point to the conclusion that in time the farmers of the Islands may produce a large part of the ₱2,000,000 worth of stock feed which is annually consumed here.

Sugar cane.—Extensive experiments with imported sugar canes have been made during the year and at La Carlota about 40 hectares of cane were harvested with a production of some 2,500 piculs of sugar. The quality of Philippine sugar cane is fairly satisfactory; but milling operations are still so crude that a very low-grade sugar is produced. This puts our planters at a distinct disadvantage in competing with those of other countries, and the Government has in every proper way encouraged the importation of modern machinery. One large modern mill has already been erected and others are in process of completion. The handsome profits which followed the opening of the American market to Philippine sugar greatly stimulated its production and there is little doubt but that this industry will of itself continue to prosper and the quality of the product to improve. The Bureau of Agriculture will continue its experiments with canes and with the methods of combating pests which attack them.

DIVISION OF HORTICULTURE.

In addition to purely horticultural work, this division has to do with seed and plant introduction and distribution, entomological work, and exercises a general supervision over the Singalong Experiment Station, the Lamao Experiment Station, the Trinidad Garden, and the Ilagan Tobacco Station.

Seed and plant introductions.—The principal introductions during the year were 2,000 plants of Hawaiian pineapple and 1,000 plants of Red Spanish pineapple. Some 27 varieties of native citrus trees have been collected and about 50 varieties of oranges, pomelos, limes, and lemons introduced from foreign countries. The efforts to introduce the avocado or, as it is more commonly known, the aligator pear, have been continued and some 200 seeds received from Honolulu in November have been planted at Lamao. Budwood of several varieties was obtained from California and Hawaii and for the first time in the history of the Islands successfully budded on to seedlings at that station.

Seed and plant distribution.—The former policy of furnishing large collections to a few applicants was this year changed to that of furnishing small collections to all applicants. This change led to a phenomenal increase over 1911. In that year about 5,000 allotments of vegetable seeds were recorded; about 50,000 were made during the past year. From August to March from 60 to 100 requests a day were received by mail alone and it is estimated

that nearly half a million individual packages of seeds were distributed. The school gardens of the Bureau of Education have immensely increased the planting of vegetables, and this as much as anything else has led to the large increase in the demand for seed.

Some sixty to seventy-five thousand mulberry cuttings were distributed during the year, as against some 20,000 in the previous year. A small charge for these was made to private parties. About 2,000 packages of selected papaya seed were given away and the results of this work can be seen in the quality of the papayas now offered for sale in our markets. A considerable part of the seed distributed was raised by the Bureau.

Entomological work—locusts.—At its last session the Legislature made an appropriation for the definite purpose of combating the ravages of these insects and an entomologist was obtained and placed in direct charge of the work, which is carried on through provincial locust boards. An outbreak in Cebu was the worst single attack reported for several years. The swarm covered about 15 square kilometers of territory and swept practically across the Island. The presence of the entomologist in Cebu was of great benefit and resulted in saving tens of thousands of pesos worth of property. During the year outbreaks were reported in 15 provinces. With few exceptions they were promptly controlled.

Miscellaneous pests and diseases.—The attacks from rats were more severe than usual. Good success in exterminating them was had with arsenic. Serious losses to maize, rice, and young cane came from the worst plague of caterpillars which has been reported since 1910. During the year some 400 communications relative to plant pests and diseases were received and answered.

Trinidad Garden.—The Trinidad Garden is maintained for the purpose of testing temperate and tropical vegetables as well as supplying the local demand for vegetables at Baguio. Efforts have been made to have private parties undertake this latter work and it is hoped that the growing of vegetables for market by the Government may be completely ended within the next year or two.

Lamoo Experiment Station.—The experimental work in horticulture has been largely concentrated at Lamoo, which has been considerably improved. Large numbers of papayas have been bred and extensive tests with pineapples undertaken. One of the most important discoveries made by the horticulturist was the possibility of vegetative propagation of cacao by buddage. A considerable area is devoted to nurseries and small plats of the

principal tropical fruits, such as anonas, avocados, guavas, chicos, mangos, tamarinds, etc.

Singalong Experiment Station.—During the year more than a third of the Singalong station was transferred to the city of Manila. There is a real need for this station; it serves as a central point for handling live stock which must be brought to Manila for transshipping, and for preserving until they can be transferred to a permanent location plants and seeds which are received from abroad. Its largest single crop continues to be Guinea grass.

Ilagan Tobacco Station.—During the year the superintendent's house at the Ilagan station was finished and several smaller buildings constructed. More experiments with tobacco were conducted this year than have ever been carried on before, although the season was rather unfavorable. Plans were made, however, and the ground laid out so that the experiments of the present year should be particularly valuable to tobacco growers. The greatest practical value obtained from the station was in the coöperative work carried on throughout the entire Cagayan Valley. Particular attention was given to the cleaning of seed, and more than 1,700 planters took advantage of the opportunity offered them. In the single municipality of Ilagan there are now 613 curing sheds, where practically none existed a year ago. Emphasis has also been laid upon the multiple-crop system—that is, that planters should raise other things than tobacco.

FIBER DIVISION.

During the year this division made a study of fiber and other industries of Java; made exhaustive investigations in hemp, maguey, and sisal; and devoted itself to the particular study of kapok and of introducing cotton into the Philippines.

Hemp.—The study of this, our most important fiber, which was begun in 1909, was continued. As a result of its investigations, the Bureau has endeavored among other things to discourage the general practice of planting camotes as a cover crop in fields of young hemp. Exact figures showing the production and exportation of hemp during the year are not yet obtainable, but it is believed that the exports are somewhat less than last year, although somewhat greater in value. Because of defective methods of cleaning and preparing for market, the bulk of the fiber produced is greatly inferior to what should be the standard grade. The work of persuading growers to produce a better quality has not been encouraging. In many sections they claim that they are at the mercy of the local buyer and, so far as

prices are concerned, it makes little difference what grade of fiber is produced. The work will be continued, however, and it is hoped that little by little conditions will be bettered. The preparation of knotted hemp for export has been started and the industry seems to promise rapid development and good returns. In time knotted hemp should become an important export.

Maguey and sisal.—Not a great while after maguey had come to be a product of importance, there came a great decline in the price of hemp and other cordage fibers. This decline gave maguey production a setback from which it has not yet recovered. Reasonable profits from its growing can be made, particularly if proper methods of cutting and cleaning are followed, and the Bureau will continue its work of introducing these methods.

Kapok.—Particular study was made of the market for kapok during the year and the results communicated to the growers. Special attention was given to the question of machinery and another year should see considerable growth in the production of kapok for export.

Cotton.—Only a small quantity of cotton is now grown in the Philippines, but the Bureau has, during the year, gone into its production with a view to determining whether it would be advisable to encourage the planting of this crop in an effort to supply the local demand for raw cotton in the Islands. The investigations are still inconclusive.

DEMONSTRATION AND EXTENSION WORK.

Agricultural extension work was first undertaken in 1907 with the appointment of a superintendent of agricultural extension work. For three years it was confined largely to an investigation of Philippine agricultural conditions. During the year 1911 a lecture campaign was organized and carried out in 18 provinces. The work of last year was directed toward the establishment of coöperative demonstration projects in several different provinces. The difficulty is, and has been, to secure competent men who are willing to remain in one district sufficiently long to get results. In the central office this work is confined largely to the distribution of printed matter and the preparation of the permanent mailing list. The central office also largely prepared and installed the agricultural and horticultural exhibit at the first Philippine Exposition, held last February. Coöperative work with the Philippine Railway Company is being carried on in Cebu, Iloilo, and Capiz Provinces. Some 23,500 ears of selected seed corn were purchased by the

Bureau and paid for by this company, to be used on 25 demonstration plots. Considerable work was also done in Batangas, the farmers showing a commendable interest, and little difficulty was found in obtaining demonstration plots in the different municipalities. During May nine plots had been prepared for planting and five actually planted, and at the close of the year the work was being carried forward as rapidly as possible. Corn and rice are the two crops so far taken up, but it is planned to plant sugar cane in the sugar districts. Seeds have been distributed and some extension work done in the subprovince of Amburayan. Arrangements have been made to establish a demonstration project in the Mountain Province under the supervision of an experienced American inspector. In Bohol work was started in May and during that month and June the inspector assisted in laying out school gardens and in the fight against locusts.

The field for the development of demonstration and extension work in the Philippines is practically unlimited and as rapidly as our resources will permit a demonstration and extension project should be begun in each province. The Bureau's chief difficulty has always been actually to bring the results of its investigations to the knowledge of the people and in this way improve agricultural methods. Personal contact counts for far more than the dissemination of printed reports and striking improvement has been found in those localities in which practical work was carried on.

PUBLICATIONS.

The chief publication continues to be *The Philippine Agricultural Review*. The two most noteworthy changes in this publication were the elimination from its pages of clipped articles and the publication of special numbers devoted largely to a particular subject. The Review has now been put on a subscription basis, although enough free copies are sent out to the towns of the Islands to place the information contained in the paper at the disposal of anyone who wishes it.

The following bulletins, circulars, and reports were issued during the year, copies of which can be obtained on application to the Bureau:

Bulletin No. 18.—The Mango. P. J. Wester.

Bulletin No. 19.—Experiments on the Efficiency of Anti-Rinderpest Serum. A. R. Ward and F. W. Wood.

Bulletin No. 20.—Notes on the Muscular Changes Brought about by Intramuscular Injection of Calves with the Virus of Contagious Pleuropneumonia. W. H. Boynton.

Bulletin No. 21.—A study of the Normal Blood of Carabao. W. H. Boynton.
Special bulletin.—The Sugar Industry of the Philippine Islands. G. E. Nesom, four collaborators.

Special bulletin.—A Handbook on the Sugar Industry of the Philippine Islands. G. E. Nesom, H. S. Walker, three collaborators.

Circular No. 2.—El Semillero de Tabaco. R. W. Rowe.

Circular No. 5.—The Tobacco Beetle. D. B. Mackie.

Circular No. 6.—Cultural Directions for Papaya (Tagalog, Cebuano). P. J. Wester.

Circular No. 7.—Coconuts (Spanish, Tagalog, Pangasinan, Cebuano, English). O. W. Barrett.

Circular No. 8.—Locusts. D. B. Mackie.

Circular No. 9.—Directions for Planting Vegetables and Flowers (Tagalog, Ilocano, Pangasinan, Cebuano). P. J. Wester.

Circular No. 10.—Directions for Planting Forage Seeds and Roots. O. W. Barrett.

Circular No. 11.—Seed Cane Distribution. O. W. Barrett.

Circular No. 12.—Plant Pest Remedies. P. J. Wester.

Circular No. 13.—Rats. D. B. Mackie.

Circular No. 14.—Corn-blade Fodder (Spanish). C. M. Conner.

Circular No. 15.—The Mango. P. J. Wester.

Reprint: The Rinderpest Problem. A. R. Ward.

Reprint: The Propagation of the Avocado. P. J. Wester.

In conclusion, it may be repeated that the chief work of the Bureau during the coming year must be the campaign against animal diseases, but it is hoped that this will be the last year in which it will be the work of paramount importance. Following this the chief development must come through coöperative field demonstrations.

BUREAU OF SUPPLY.

The purchases made by the Bureau of Supply during the year amounted to ₱7,700,417.31, divided as follows:

In the local market, Manila (61.28 per cent of the total).....	₱4,718,927.37
In the United States (36.86 per cent of the total).....	2,838,718.64
In all other foreign countries (1.86 per cent of the total).....	142,771.30
Total	7,700,417.31

If there is added the cost of the rice bought under the provisions of Act No. 2076, the total purchases amount to ₱9,336,329.15. The sales, exclusive of rice, amounted to ₱7,518,357.20, of these ₱5,730,964.92 were to the various Government bureaus and offices and 1,787,392.28 to the provinces and municipalities. The volume of business transacted this year was something more than 25 per cent greater than that of last year, and during the past five years the volume of business has almost doubled.

The gross earnings for the year amounted to ₱658,864.93,

while the cost of operation was ₱421,194.72, leaving an apparent net gain of ₱237,670.21. Against this gain there must be written off the deterioration of stock on hand, of land and water transportation equipment, and to it must be charged the completion and equipment of the new warehouses, the erection of additional lumber sheds, and the cost of moving the stock to the new location.

The cost value of merchandise belonging to the Bureau on hand at the close of business June 30, 1912, was ₱2,334,876.28. The percentage of operating expenses to the net cost value of sales during the year was 7.49 as compared with 6.30 last year. The increase was brought about by expenses incurred in handling rice under the provisions of Act 2076, for which reimbursement was not received, and by receiving and stocking a two years' supply of lumber in the new lumber yards.

PERSONNEL.

The regular appointments under the Civil Service Act were 6 Americans and 18 Filipinos, while 6 Americans and 10 Filipinos were separated from the service. Twenty-five Americans and 53 Filipinos were given temporary and emergency appointments. As I have said, within the last five years the business of the Bureau has increased almost 100 per cent and there has been no corresponding increase in the personnel. In consequence, the employees are badly driven and it is difficult properly to transact the work of the Bureau. A careful study of the present organization is now being made with a view to adjusting it to meet the greatly increased demands, and enough employees will be added to enable the purchasing agent to fulfill his duties promptly, expeditiously, and economically.

LUMBER.

For many years the Government purchased from time to time such lumber as it needed for its immediate requirements. The result was most unsatisfactory. The market supply of properly cured lumber was so small that unseasoned timber had to be used in construction work, with the result that doors and windows soon warped out of shape, floors had to be taken up and relaid, and much unnecessary expense was added to the cost of public works. To remedy this situation the establishment of a lumber yard was decided upon and during the year six sheds, capable of housing about 3,000,000 board feet, were erected. Six more will be built this year. These sheds should enable us to

keep on hand enough properly cured lumber to meet promptly our needs. The yard will be of particular value in enabling us to build expeditiously and at a minimum cost the large number of schoolhouses, for the construction of which the Legislature has appropriated funds.

TRANSPORTATION.

All hauling, except of coal and lumber, is now done by electric trucks at about one-half the cost of what it was when horses and wagons were used. The Bureau also owns and operates a fleet of 16 lighters and 1 lorch, but depends on the Bureau of Navigation for its launch service.

STANDARDIZATION.

The Bureau carries so large a stock of staple supplies chiefly because the Government in its various branches uses such varied makes of standard articles and the purchasing agent must furnish what requisitioners call for. If these articles were standardized and only one brand were bought and furnished at a time, a large saving could be made each year. This matter has been the subject of discussion before, and it is hoped that during the coming year some definite scheme of standardization may be adopted.

SURCHARGES.

One of the most annoying features of Government purchases is the number of requests which are continually being made by various bureaus for exemption from the payment of the duly authorized surcharge. The reasons advanced for exemption are varied, but the most usual is that due to special circumstances the cost of making the purchase will not amount to 10 per cent. The theory under which the Bureau of Supply operates is that the surcharge will be fixed in an amount adequate to furnish during the year sufficient funds to enable the Government to operate the Bureau without making a definite appropriation therefor; and it by no means follows that in individual cases the surcharge actually represents what it costs the Bureau of Supply to make the purchase—sometimes it is more, sometimes less than the amount received, and it is not believed to be good administration to allow frequent exemptions.

With a total capital and surplus of ₱3,661,254.49, the Bureau now has an overdraft of approximately ₱1,250,000, due primarily to the enormous increase of business without a corresponding

increase in capital, but in a considerable part also to the fact that the law requiring bureaus to take and pay for what they estimate their needs to be has not been strictly enforced, and to the further fact that there is much difficulty in effecting prompt payment for goods purchased. Chiefly because bureaus have not taken what they estimated they would need, there has, during the years of its existence, been accumulated a larger stock than there is any need for, and steps should be taken promptly to reduce this stock, crediting the proceeds to the overdraft, and the amount of supplies kept on hand should be the smallest possible to enable the Government to serve its needs with dispatch.

NEW BUILDINGS.

Two new reinforced concrete warehouses have been erected on the fill and will be ready for occupancy as soon as a satisfactory flooring has been laid. Some difficulty has been found in obtaining a proper foundation on this newly made land, but recent tests made by the engineers of the Bureau of Public Works lead us to hope that the buildings will be ready for occupancy during the present year. These will relieve the Bureau of the large rental which it is now paying. Additional reservation for the purposes of the Bureau should be made not only of land adjacent to these warehouses, but a suitable frontage on the river should be set aside for its use in connection with the lumber and coal yards.

Of the total purchases made by the Bureau during the year, something more than 68 per cent were from local dealers in the Philippine Islands. In making purchases, local dealers have been and will continue to be given every consideration, but there are some things which it seems they cannot advantageously handle; for instance, structural-steel products and iron roofing, textbooks for the Bureau of Education, printing and hospital supplies, and articles for the purchase of which the Government is able to take advantage of the contracts made by the Government of the United States. The textbooks are published in the United States especially for the use of our schools, and contracts for an adequate supply are awarded to the various publishing companies, who either send representatives to the Islands or maintain them here permanently. There are no exclusive agents for structural-steel products and galvanized-iron roofing and by buying these articles directly from the manufacturers in the United States the Government each year effects large savings, which are used either to increase the number of schoolhouses or

to build more roads and bridges throughout the Islands. In a great number of cases instead of buying articles directly from the manufacturers the Government has bought from the manufacturers' agent in Manila, allowing him a flat profit of 10 per cent in connection with the transaction, in the endeavor to stimulate and encourage local enterprise.

DIVISION OF COLD STORAGE.

The gross receipts in this division during the year were ₱593,091.62, an increase of something more than ₱20,000 over the preceding year. Expenditures amounted to ₱475,613.31, leaving net receipts amounting to ₱117,478.32. The gross earnings from operation were ₱591,486.26, and the total expenses ₱438,191.42, leaving net earnings of ₱153,294.84. During the year the reconstruction of one corner of the ice plant was completed and similar work in the opposite corner has been begun. The reconstruction of the entire cold-storage space is necessary, but inasmuch as this can be done only a section at a time, the work will require several years for completion. A new boiler has been received and will be immediately installed so that a repetition of the scarcity of ice and distilled water which was felt during the past hot season will not occur.

My recommendation heretofore made that the ice plant be sold was considered, but not acted upon, favorably by the Legislature at its last session. I am still of the opinion that the Government should divorce itself from the business of manufacturing and selling ice and distilled water and providing cold-storage space for commercial firms; but if this may not be done, I recommend that the law under which the Division of Cold Storage is at present operated be amended in some respects. In any event ice and water should be furnished to all consumers at a price commensurate with its cost of manufacture, but not so low as not to allow private manufacturers of ice and distilled water to market their product at a legitimate profit. Ice and distilled water are absolute necessities in the Tropics and every proper effort should be made to bring them within the reach of the poorer classes.

BUREAU OF PRISONS.

The prison population of the Philippines on the 30th of last June was as follows: Bilibid Prison, 2,640; Iwahig penal colony, 1,134; working at Corregidor, 998; working at Baguio, 130; Luneta Police Station, 24; San Lazaro Hospital, 56 Hospicio de San José, 8; Lolomboy Industrial School, 46; Constab-

ulary, 23; Provinces (Insular), 5; confined in provincial jails, 1,846; in all, 6,910—an increase over last year of 474. The number of Insular prisoners was 5,071, as compared with 5,064 of the year before.

The crimes for which prisoners in greatest numbers are sentenced are adultery, rape, brigandage, embezzlement, homicide, murder, robbery, theft, violations of the Cedula and Opium Acts and infractions of city ordinances. This year there was a decrease of about 35 per cent in commitments for adultery and a considerable decrease in convictions for brigandage. Nine hundred and forty-eight persons were sent to prison for theft, as compared with 750 during the preceding year.

COST OF MAINTENANCE.

The gross cost of the maintenance of each Insular prisoner during the year was ₱126.993, a decrease of ₱5.205 as compared with the cost of the preceding year. The daily cost per prisoner at Bilibid Prison was ₱0.33295, a decrease of ₱0.01275. The daily cost of maintenance for each prisoner at the Iwahig penal colony was ₱0.405, a reduction of ₱0.0142 from the cost of last year. The daily net cost of each prisoner at Bilibid was ₱0.306 and at Iwahig ₱0.369, a decrease of ₱0.0289 and ₱0.0121, respectively. The average daily cost of subsistence for prisoners during the year was as follows:

	American and European.	Filipino and Asiatic.
Bilibid	₱0.333431	₱0.1411923
Bilibid Hospital	.2604949	.2604949
Iwahig penal colony		.15468435
Corregidor		.1371326
Baguio		.1626478

BILIBID PRISON.

Health and sanitation.—General health conditions at Bilibid Prison have been excellent during the year. No outbreaks of disease were reported. The work of segregating for special treatment tubercular patients was continued. The installation of the new sewer and drainage system for the prison has greatly improved its sanitation and should enable us to provide more adequate bathing facilities for the prisoners than have been possible in the past.

School work.—School work has been continued throughout the year and an effort was made to give some instruction to all finally sentenced prisoners. One frequently finds a man who has been

taught to read and speak English during the time he has spent in prison.

Improvements.—The buildings have been very generally repaired during the year and all roofs and frame structures repainted. A new roof was placed over the machine shops and four new guard towers built of angle iron and concrete.

Industrial division.—The output of the industrial division during the year was valued at ₱306,111.37, with a net profit to the prison of ₱46,343.68. The larger part of this work is done for the Insular Government, only ₱49,437.87 being charged against provincial governments and the general public.

An important departure was made during the year in establishing lace making and embroidery for women prisoners. The women have readily taken to the work, which not only adds to their cheerfulness and contentment, but teaches them a useful occupation which they can follow after their release. During the year an average of 1,100 prisoners were assigned to the industrial division, for whose services ₱37,642.21 was paid to the prison division.

PROVINCIAL PRISONS.

Since provincial prisons were brought into closer touch with the Director of Prisons and his associates some two or three years ago they have shown a marked improvement. Regular monthly inspections are made by Constabulary officers, whose recommendations are carefully considered and such as call for action submitted to the provincial governors. A commendable spirit of coöperation has been shown by these governors, who, in most instances, take a real interest in their prisons and show a desire to improve them. Fourteen provinces have already sent their wardens to Bilibid for a course of instruction in prison management. Provincial wardens should be placed in the civil service, and continue in office irrespective of political changes in their provinces.

IWAHIG PENAL COLONY.

On January 1, the superintendent of the colony, Mr. Carrol H. Lamb, resigned his position, and on May 6 Mr. C. F. Vance, the assistant superintendent, also resigned. These resignations have somewhat unsettled conditions at the colony, but immediately upon Mr. Vance's resignation Mr. Quillen, the Second Assistant Director of Prisons, was sent to the colony as acting superintendent and has managed it in a particularly efficient manner.

Conditions at Iwahig are better than they have ever been before. The preliminary work of clearing the land and providing quarters has been done and the energies of the colony can be concentrated upon the growing of enough rice to support its population. An irrigation system has been worked out and a large force of men is at work constructing paddies, on the greater part of which two crops of rice can be raised each year. This work should be completed within the next two years, and with the herds of cattle, the fish traps, and the large amount of vegetables which are raised, should furnish all the food needed by the colony. Attention can then be given to the construction of permanent buildings and the transfer of the colony to its new site.

The population of the colony on June 30 last was 1,244, including 1,059 penal colonists, 75 free and conditionally pardoned free colonists, 70 members of colonists' families, 23 officers and employees, and 17 members of officers' and employees' families. The work divisions with their average daily strength are as follows:

Farming division	252.55
Settlers division	67.03
Outstations division	46.39
Animal industry division	51.63
Horticulture division	27.53
Construction division	36.93
Forestry division	56.11
Roads and bridges division	42.45
Engineering division	63.30
Health and sanitation division	23.22
Police division	52.59
Executive division	47.04
Serving division	87.13
Land transportation division	32.23
Water transportation division	11.38
Information division	9.98
Band division	15.30
Miscellaneous division	54.02

The total area at present under cultivation is 448 hectares. Of this, 250 hectares are in the farming division, 80 of which were cleared during the past year. About ₦5,000 worth of up-land rice was produced. The growing of this crop has not been found profitable because of the great amount of work involved in keeping the fields free from weeds.

The work of segregating prisoners affected by tuberculosis was recently undertaken and will be carried forward to completion during the year. While plans have not been definitely

worked out yet, it is believed that a substation near Puerta Princesa Bay can be established for these prisoners and the work of planting and caring for coconuts turned over to them.

It is thought that the name "Iwahig penal colony" is unfortunate and has had no little retarding effect on the growth of this colony, which is really only a great plantation employing forced labor and which should be considered as such. There are neither stockades nor guards, and a much clearer conception of the real status and purpose of this colony would be had if it were known either as the "Iwahig Reservation" or the "Iwahig Plantation."

BUREAU OF PRINTING.

The work of the Bureau of Printing has been conducted in a thoroughly satisfactory manner and has been confined chiefly to printing and binding in more or less large quantities for the various Bureaus and Offices of the Insular Government, the city of Manila, and provincial governments.

The gross receipts for work performed amounted to ₱830,044.12; the cost of operation was ₱753,477.48, leaving a net profit of ₱76,566.64. Public documents to the value of ₱37,832.25 were sold during the year.

The quantity of paper consumed was as follows:

Book paper	pounds....	317,307
Writing paper	do.....	366,510
Bond and ledger paper	do.....	106,727
Card and bristol board	do.....	54,906
Envelopes (all kinds).....		4,773,325

This is a considerable increase over the amount of paper used during the preceding year.

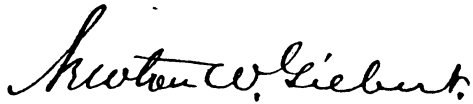
At the close of the fiscal year there were on the rolls of the Bureau 28 Americans, 434 Filipinos, 1 European, 2 East Indians, and 1 Chinese—a total of 466 employees, of which, it will be noted, about 93 per cent are Filipinos.

As an industrial school, the Bureau of Printing has accomplished a great deal toward the training of young Filipinos along practical lines of trade. At the close of the year 112 apprentices were receiving instruction in every branch of letterpress printing and in the auxiliary trades, such as engineering, electrical and mechanical work. This is an increase of 23 per cent over the preceding year. Fourteen apprentices were graduated as junior craftsmen during the course of the year.

The work of the Bureau of Printing has for some time been greatly handicapped by the lack of floor space in the present

building; and with the constantly increasing business this has now become a serious drawback to the efficient and prompt execution of orders. The increased volume of work has necessitated the installation of additional machinery, which, on account of the already cramped condition, could not be accommodated with any degree of convenience or safety. This requires considerable overtime and night work, causes added expense, and is detrimental to the health and efficiency of the employees. In the last annual report of the Department it was recommended that more suitable quarters be provided for this Bureau, and this recommendation is herewith earnestly reiterated.

Very respectfully,

A handwritten signature in cursive script, reading "Newton W. Liebert".

Secretary of Public Instruction.

To the PHILIPPINE COMMISSION.



